DELIXI
ELECTRIC

Delixi Electric Easy Electric

CDB6i Miniature Circuit Breaker

User Manual

Complied Standard: IEC/EN 60898-1

□Please carefully read the User Manual before the installation and use of the products, keep it properly as backup.

CDB6i Miniature Circuit Breaker

Safety Notice

Make sure to read this manual carefully before installation, operation, maintenance and inspection, and correctly install and use this product according to the manual.

⚠ Danger:

- Do not operate the breaker with wet hands;
- Never touch the conductive parts in use;
- Make sure that the product is de-energized during maintenance and care;
- Do not test the product by means of short circuit;

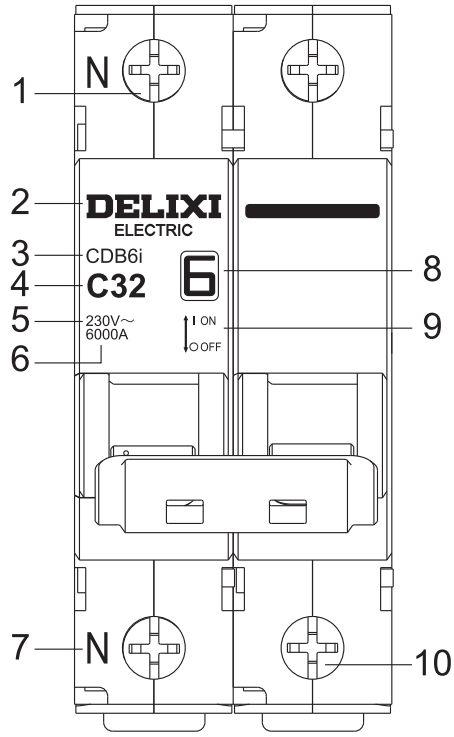
⚠ Attention:

- The installation, repair and maintenance shall be implemented by qualified personnel;
- All features of the product have been set when delivery, do not disassemble or modulate the product at your own discretion;
- Before use, make sure that the working voltage, rated current, frequency and features of the product meet the working requirements;
- To prevent interphase short circuit, the bare wire or copper busbar at the terminal shall be insulated;
- Stop using and contact the supplier immediately in case of any damage or abnormal sound during unpacking;
- Make proper disposal of industrial wastes for end-of-life products. Thank you for your cooperation.

Understand CDB6i Miniature Circuit Breaker

Panel Introduction

1. Power supply terminal
2. Company trademark
3. Product model
4. Current specification (tripping type, rated current)
5. Rated voltage
6. Breaking capacity
7. N pole indication (for 1P+N and 3P+N series product)
8. Series logo
9. Closed Open instructions
10. Load terminal



Conditions of Normal Use Installation and Transportation

Conditions of normal use and installation

(1)The ambient temperature ranges between -20℃ and +60℃ with average value in 24h not exceeding +35℃;
(2)Altitude: <2000m;
(3)The relative humidity should not exceed 50% at a maximum temperature of +40℃; the relative humidity is allowed to increase while under lower temperature, for instance 90% for temperature +20%, but should take condensation into consideration when temperature is changed.
(4)The external magnetic field near the installation site of the residual current circuit breaker shall not exceed 5 times the geomagnetic field in any direction;
(5)It shall be installed in medium free of explosion risk and gas or dust that may cause metal corrosion or damage to insulation;
(6)It shall be installed in places where there is no shock and vibration, or rain and snow either;
(7)Pollution class: 2;
(8)Installation category: II & III;
(9)It shall be installed in distribution box, distribution cabinet or box;
(10)Negative wiring is allowed for the product;
(11)For products with N pole, the phase line shall be connected to the pole with the indication N.

Conditions of normal storage and transportation

(1)Temperature range: -40℃ - +70℃;
(2)Relative humidity (25 ℃) when: ≤95%;

(3)The product shall be handled with care during transportation without upside down. Avoid violent collision.

Main Technical and Performance Parameters

Main technical parameters of the circuit breaker

Table 1 Main technical parameters

Trip type	Rated current In A	Number of poles	Rated voltage Ue V	Breaking capacity Icn A
Type B	6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 63	1	230/400	6000A
		2, 3, 4	400	
	10, 13, 16, 20, 25, 32, 40, 50, 63	1+N	230	
		3+N	400	
Type C	1, 2, 3, 4, 5, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 63	1	230/400	
		2, 3, 4	400	
	10, 13, 16, 20, 25, 32, 40, 50, 63	1+N	230	
		3+N	400	
Type D	1, 2, 3, 4, 5, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 63	1	230/400	
		2, 3, 4	400	
	10, 13, 16, 20, 25, 32, 40, 50, 63	1+N	230	
		3+N	400	

For the over-current protection characteristic of the circuit breaker, see table 2

Table 2 The over-current protection characteristic of the circuit breaker

Trip ping	Rated current In A	Test current A	Starting status	Starting time	Anticipated result	Accessories	Reference temperature
B,C,D	≤63	1.13In	Cold	t≤1h	Non-trip	——	+30 $^{+5}_{0}$ ℃
B,C,D	≤63	1.45In	Immediately following test	t < 1h	Trip	The current shall reach the set value within 5 seconds.	
B,C,D	≤32	2.55In	Cold	1s < t < 60s	Trip	——	
	> 32			1s < t < 120s			
B	≤63	3In	Cold	t≤0.1s	Non-trip	Close auxiliary switch connects to the power supply	
C		5In					
D		10In					
B	≤63	5In	Cold	t < 0.1s	Trip		
C		10In					
D		14In					

Other technical parameters

(1) Mechanical life: 15000 times;

(2) Electrical life: 10000 times;

(3) Rated impulse withstand voltage (Uimp): 4kV;

Diagrams 1, 2 and 3 are the Tripping curve of the circuit breaker

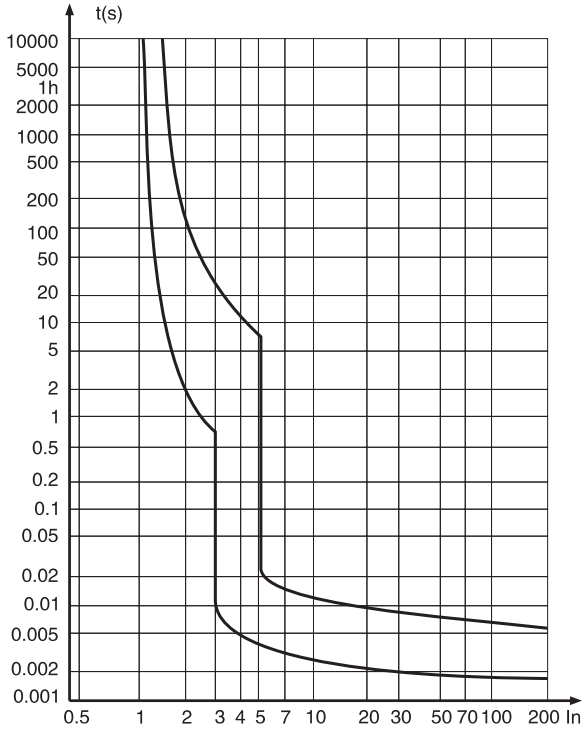


Diagram 1 Type B thermal/ electromagnetic tripping curve

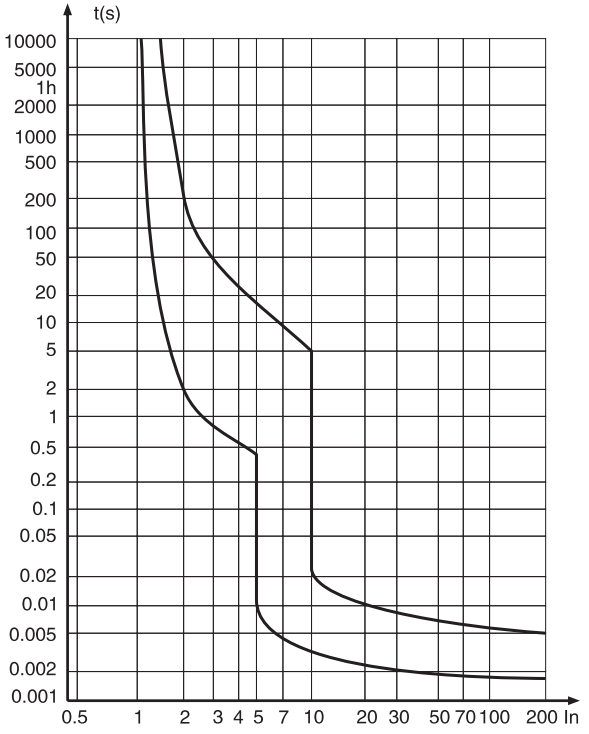


Diagram 2 Type C thermal/ electromagnetic tripping curve

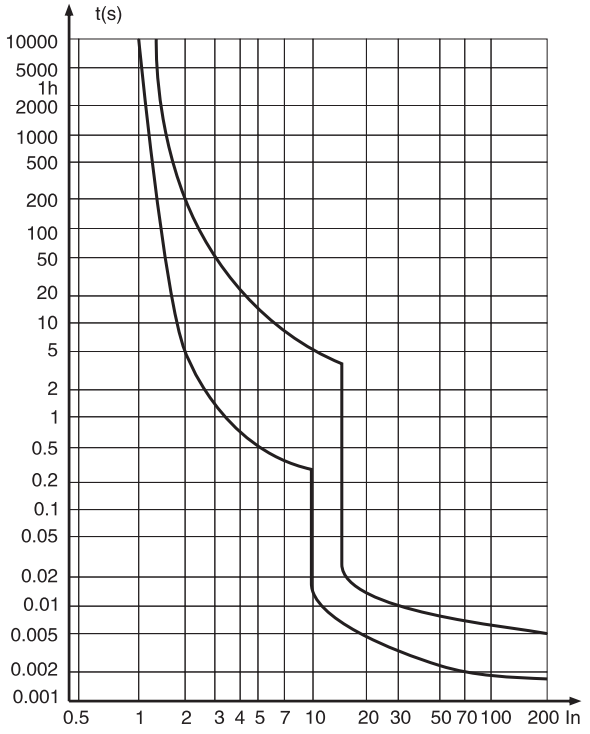


Diagram 3 Type D thermal/ electromagnetic tripping curve

Overall and Installation Dimensions

The breaker is DIN rail mounting. For overall and installation dimensions, see Figure 4.

Unit: mm

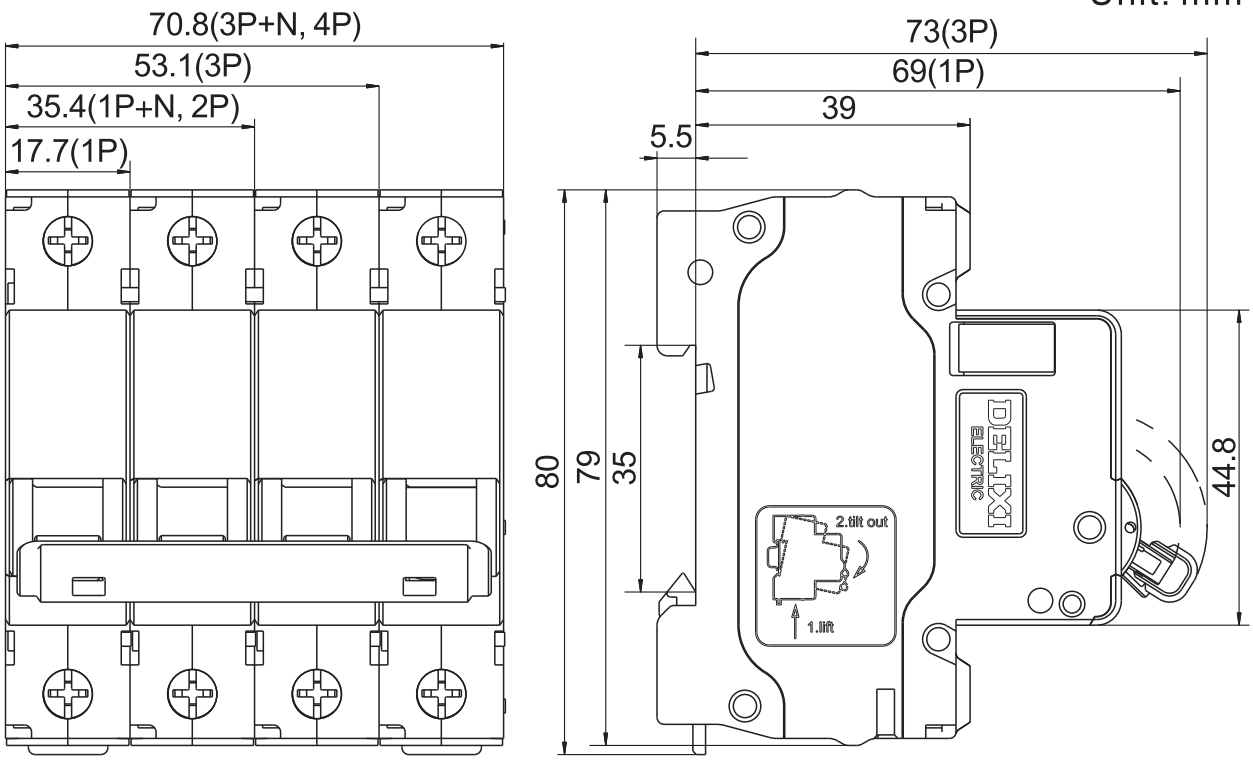


Figure 4. Overall and Installation dimensions

Accessories Included

The breaker has six different accessories, including OF auxiliary contact, MX+ OF shunt release, SD alarm contact, MV overvoltage release, MN undervoltage release and MVMN over/undervoltage release. AII accessories are mounted on the left of the device.

Installation, Use and Maintenance

Before breaker installation:

(1) Checkwhether the technical parameters of the product meet the use requirements;

(2) Beforeuse, users shall check the insulation resistance respectively between the two poles (except for single pole), the pole and the shell, the pole and the mounting rail, the incoming and the outgoing line end with a 500V megohmmeter. Do not use the product if the insulation resistance is below 5MΩ and contact the supplier timely for exchange.

(3) Closeand open the breaker for several times to check whether the operation mechanism is reliable or clamping stagnation exists in the mechanism;

(4) Thereference temperature for the breaker of this series is $+30^{+5}_{0}$ ℃;

(5) Thesectional area of connecting conductor shall fit the rated current of the circuit breaker. See table 3;

Table 3 Rated current and section area of the connecting wire

Rated current A	1,2,3,4,5,6	8,10	13,16,20	25	32	40,50	63
Cross-section of conductor mm^2	1	1.5	2.5	4	6	10	16
Wiring tightening torque N.m	Both power supply terminal and load terminal are 2.0						

(6) The breaker of this series adopts DIN rail mounting method, for which TH35-7.5 steel DIN rail shall apply.

(7) When the ambient temperature changes, the rated current shall be corrected accordingly. For temperature correction coefficient, see table 4.

Table 4 Table of correction coefficient for rated current

Rated current (A)	Correction value of rated current A								
	-20℃	-10℃	0℃	10℃	20℃	30℃	40℃	50℃	60℃
1	1.22	1.18	1.15	1.10	1.05	1	0.94	0.90	0.84
2	2.43	2.31	2.25	2.17	2.06	2	1.93	1.85	1.63
3	3.68	3.57	3.43	3.29	3.18	3	2.82	2.63	2.57
4	4.89	4.75	4.67	4.48	4.24	4	3.98	3.52	3.25
5	6.21	5.98	5.83	5.77	5.42	5	4.85	4.57	4.19
6	7.33	7.05	6.84	6.62	6.30	6	5.64	5.42	5.06
8	9.78	9.44	9.15	8.51	8.32	8	7.1	6.92	6.75
10	12.25	11.87	11.64	11.15	10.62	10	9.30	8.96	8.48
13	15.78	15.34	14.83	14.22	13.75	13	12.10	11.75	10.93
16	19.49	18.72	18.06	17.98	16.96	16	15.04	14.42	13.47
20	24.35	23.68	22.82	22.47	21.20	20	18.80	17.85	16.78
25	30.52	29.61	28.78	28.09	26.50	25	23.25	22.52	21.02
32	38.96	37.68	36.62	35.96	33.92	32	30.08	28.81	26.84
40	48.85	47.13	46.32	45.80	42.80	40	36.80	36.21	33.5
50	61.58	59.52	57.35	55.04	52.59	50	46	44.25	42.36
63	76.86	74.25	71.18	69.13	67.41	63	58.59	56.83	52.93

Maintenance and care

(1) The installation, repair and maintenance shall be implemented by qualified personnel;

(2) It must be ensured that the product is de-energized;

(3) Maintenance and care shall be conducted once a year under normal operation condition. The details of maintenance and care are shown in table 5.

Table 5 Maintenance and care

Item	Content
Appearance	Free of dust and condensation. Clean, if any. With no damage No change of color for the shell and connecting terminal
Wiring terminal connection	Tighten according to the torque stipulated in table 3 and ensure it does not loosen.
Handle closing/opening operation	Operation shall be smooth and flexible

Unpacking Inspection

After unpacking, the user must check whether the product is intact, whether the exposed metal is rusty and whether the product is defective due to improper transportation or custody. In case of above phenomenon, do not use the product and timely contact the supplier.

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Certificate of qualification

DELIXI ELECTRIC LTD

Product: Miniature Circuit Breaker

Type: CDB6i

This product has passed the inspection and is approved to delievery.

Standard: GB/T10963.1

Inspector: 01

Date of production: See box label

DELIXI ELECTRIC LTD

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